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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/511,876

08/16/2005

Tetsuro Mizushima

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EXAMINER

VERDERAME, ANNA L

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

06/09/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/511,876	Applicant(s) MIZUSHIMA ET AL.	
	Examiner ANNA L. VERDERAME	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4-7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/19/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 4-7 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to claims in the alternative only and cannot depend from any other multiple dependent claims See MPEP § 608.01(n). Accordingly, the claims 4-7 will not be further treated on the merits.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishihara et al. 2002/0054983 in view of Suzuki et al. 6,149,999.

Nishihara et al. teaches a dual-layer optical recording medium comprising a first polycarbonate substrate 1, a 40 nm ZnS-SiO₂ film as the lower protective layer 2, a GeN first lower interface layer 3 having a thickness of 5 nm, a 4-10nm recording layer 4, a first upper interface layer having 5 having a thickness of 5 nm, **a ZnS-SiO₂ upper protective layer 6 having a thickness of 5 nm**, a GeN upper interface layer 7 having a thickness of 5 nm, **an Ag alloy reflective layer 8 having a thickness of 10 nm**, a GeN interface layer 9 having a thickness of 5 nm and **a ZnS-SiO₂ transmittance adjustment layer having a thickness of 30 nm(0152) and then the second**

recording composite. It is the position of the examiner that the ZnS-SiO₂ transmittance adjustment layer corresponds to applicants' base protect film disposed between the translucent reflective film and the transparent intermediate layer. An optically separating layer 21 was formed by coating a UV-ray curable resin onto the first information layer 11(0153).

In order to increase transmittance the thickness of the first reflective layer 8 is in the range of 5 to 15 nm (0081).

Materials and properties of the optically separating layer are taught at (0082).

Materials for the protective layers are taught at (0062).

Nishihara et al. does not teach a heat radiation film disposed between the substrate and the first dielectric film.

Suzuki et al. teaches an optical recording medium like that shown in figure 1 comprising a substrate 1, a heat diffusion layer 7, a lower protection layer 2a reflection control layer 3, a recording layer 4, an upper protective layer 5 and a reflection layer 6. Figure 1 illustrates the flow of heat generated in the recording layer. Part is conducted to the reflection layer and another part is conducted and diffused to the heat radiation layer. A medium having an adequate cooling rate necessary for quenching upon amorphous formation is formed (10/ 51-11/2). Aluminum nitride , Silicon carbide, and aluminum oxide are taught as materials for the heat diffusion layer (10/32-47).

It is the position of the examiner that the heating/ cooling considerations for the recording stack nearest the light incidence plane in a dual-layer optical recording

medium are similar to those for a single layer recording medium based on the proximity of the recording layer to the incident laser light.

It would have been obvious to one of ordinary skill in the art to modify the dual-layer optical recording medium taught in Nishihara et al. at 0152-0153 by adding a heat dissipation layer of AlN or SiC between the first substrate 1 and the first lower protective layer 2 based on the example of Suzuki et al. and with the reasonable expectation of obtaining a medium in which heat generated in the recording layer 4 is conducted/ diffused both to the reflective layer and to the heat radiation layer resulting in improved cooling and allowing for quenching upon amorphous formation.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANNA L. VERDERAME whose telephone number is (571)272-6420. The examiner can normally be reached on M-F 8A-4:30P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on (571)272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1795

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. L. V./
Examiner, Art Unit 1795

/Martin J Angebranndt/
Primary Examiner, Art Unit 1795